

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the pending application. The Office Action dated May 15, 2008 has been received and its contents carefully reviewed.

Claims 1-9 and 11 are hereby amended. Claim 10 is canceled without prejudice or disclaimer. No new matter has been added. Accordingly, claims 1-9 and 11 are currently pending. Reconsideration of the pending claims is respectfully requested.

The Office Action rejects claims 1-2, 5-7, and 11 under 35 U.S.C. §102(b) as being anticipated by “Nanofabrication of Organic/Inorganic Hybrids of TiO₂ with Substituted Phthalocaynine or Polythiophene” to Ding (*Ding*). The Office Action also rejects rejects claims 1-3, 5-9, and 11 under 35 U.S.C. §102(a) as being anticipated by “Polythiophene-sensitized TiO₂ Solar cells” to Yanagida (*Yanagida*). Applicants respectfully traverse these rejections.

As an initial matter, Applicants respectfully submit that *Yanagida* is not prior art and thus any rejection based on *Yanagida* should be withdrawn as improper. *Yagangida* was accepted for publication on April 4, 2004. The present application is a national stage application of PCT/FR2004/050591, filed on November 16, 2004, and claims priority to French Patent Application No. 03-50841, filed on November 17, 2003. Accordingly, the effective priority date of the present application is November 17, 2003, which is before April 4, 2004. Accordingly, *Yagangida* is not prior art under 35 U.S.C. §102(a). Applicants, therefore, request withdrawal of the rejection over *Yanagida*.

Also, as required in M.P.E.P. § 2131, in order to anticipate a claim under 35 U.S.C. § 102, “the reference must teach every element of the claim.” Neither *Ding* nor *Yanagida* disclose all the elements of at least claim 1 and thus cannot anticipate claim 1 or any claim dependent thereon.

The Office Action considers claims 1, 6-7, and 9 as product by process and has not given weight to the process steps recited therein. Applicants respectfully disagree. However, in order to expedite prosecution, Applicants have amended claims 1, 6-7, and 9 to be method claims as originally presented and examined claim 10. As such, all the elements recited in claims 1, 6-7, and 9, should be considered.

Amended claim 1 recites, “a step in which a substrate made of a porous oxide ceramic is functionalized by chemical grafting of one or more compounds containing at least one group that can be polymerized with one or more precursors ... a step in which said precursor or precursors are polymerized.” *Ding* and *Yananida* fail to teach or suggest at least these elements of claim 1. In fact, the Office Action admits that *Ding* and *Yanagida* are “silent to a step which the substrate thus functionalized is impregnated with a solution containing the precursor(s); and a step in which the precursor(s) are polymerized.” *Office Action*, pages 8 and 10. Neither *Ding* nor *Yanagida*, therefore, can anticipate claim 1 or any claim dependent thereon. Accordingly, claims 1, 6-7, and 9, are patentable over the individual disclosures of *Ding* and *Yanagida*. Applicants, therefore, respectfully request withdrawal of the rejections under 35 U.S.C. 102(a) and (b).

The Office Action also rejects claims 3-4 under 35 U.S.C. §103(a) as being obvious over *Ding* in view of *Yanagida*. Applicants respectfully traverse the rejection.

As discussed above, *Yanagida* is not prior art and, therefore, this rejection is improper. Additionally, even if *Yanagida* were prior art, claims 3-4 variously depend on claim 1 and as discussed above, *Yanagida* suffers of the same deficiencies as *Ding* with respect to claim 1. Therefore, even if it were prior art, *Yanagida* combined with *Ding* still could not render claim 1 and thus claims 3-4 obvious. Accordingly, Applicants respectfully request withdrawal of this rejection.

The Office Action also rejects claim 11 as being obvious over *Ding*. Applicants respectfully traverse the rejection.

Claim 11 variously depends on claim 1 and thus incorporates all the elements of claim 1. Amended claim 1 recites “a step in which a substrate made of a porous oxide ceramic is functionalized by chemical grafting of one or more compounds containing at least one group that can be polymerized with one or more precursors ... a step in which said precursor or precursors are polymerized.” As discussed, *Ding* fails to teach or suggest at least this element of claim 1. Accordingly, *Ding* cannot render claim 1 and consequently claim 11 obvious. Applicants, therefore, respectfully request withdrawal of the rejection.

The Office Action also rejects claim 10 under 35 U.S.C. §103(a) as being obvious over *Ding* in view “Polymer brushes: surface-immobilized macromolecules” to Zhao (*Zhao*). The Office Action further rejects claim 10 under 35 U.S.C. §103(a) as being obvious over “Polythiophene-sensitized TiO₂ Solar cells” to Yanagida (*Yagangida*) in view *Zhao*.

Claim 10 has been canceled, therefore, these rejections are now moot. To the extent that these rejections apply to amended claim 1 or any claim dependent thereon Applicants respectfully traverse.

In order to establish *prima facie* obviousness of the claimed invention, all the elements must be taught or suggested by the prior art. The combined teachings of *Ding* and *Zhao*, or *Yanagida* and *Zhao* fail to teach each and every element of claim 1 and thus cannot render obvious claim 1 of any claim dependent thereon.

As a preliminary matter, Applicants reiterate that *Yanagida* is not prior art with respect to the present application. Accordingly, the rejection over the combined teachings of *Yanagida* and *Zhao* should be withdrawn as improper.

Also, amended claim 1 recites, “a step in which a substrate made of a porous oxide ceramic is functionalized by chemical grafting of one or more compounds containing at least one group that can be polymerized with one or more precursors ... a step in which said precursor or precursors are polymerized.” (emphasis added.) As discussed above and as admitted in the Office Action, *Ding* and *Yanagida* fail to teach or suggest at least this element of claim 1. *Zhao* does not cure the deficiency of *Ding* and *Yanagida* because *Zhao* does not teach or suggest “grafting of one or more compounds containing at least one group that can be polymerized with one or more precursors,” as required by claim 1. Accordingly, claim 1 and any claim dependent thereon is patentable over the combined teachings of *Ding* and *Zhao* and of *Yanagida* and *Zhao*. Applicants, therefore, respectfully present that the rejections to now canceled claim 10 are not applicable to amended claim 1 or any claim dependent thereon.

The application is in condition for allowance and early, favorable action is respectfully solicited. If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

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Respectfully submitted,

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